The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1-10. (Cancelled)

11. (Currently Amended) A ~~The~~ refrigerator ~~according to claim 9, wherein~~ comprising:

a refrigerant circuit provided with a compressor including a motor and ~~said refrigerant circuit is being provided with~~ a refrigerant detecting means for detecting a refrigerant state;

a detecting component configured and arranged to detect at least one of a current of said motor and a voltage of said motor; and

a prediction component configured and arranged to predict an internal condition of the compressor based on detection values obtained by said detecting component,

said prediction component having an identification component for identifying a parameter of a motor model from the detection values obtained by the detecting component, and a derivation component for deriving the internal condition of the compressor based on the parameter identified by the identification component, the parameter identified by said identification component being motor driving torque, and

said derivation component being configured to derive the high refrigerant pressure or low refrigerant pressure of the refrigerant circuit based on the motor driving torque identified by the identification component and the refrigerant state detected by the refrigerant detecting component.

12. (Currently Amended) A ~~The~~ refrigerator ~~according to claim 9, wherein~~ comprising:

a refrigerant circuit provided with a compressor including a motor and ~~said refrigerant circuit is provided with~~ a refrigerant detecting component for detecting a refrigerant state;

a detecting component configured and arranged to detect at least one of a current of said motor and a voltage of said motor; and

a prediction component configured and arranged to predict an internal condition of the compressor based on detection values obtained by said detecting component,

said prediction component having an identification component for identifying a parameter of a motor model from the detection values obtained by the detecting component, and a derivation component for deriving the internal condition of the compressor based on the parameter identified by the identification component, the parameter identified by said identification component being motor driving torque, and

the derivation means ~~is~~ being formed such that the relationship between motor driving torque corresponding to at least one of a refrigerant temperature and a refrigerant pressure of the refrigerant circuit and the degree of suction superheat of the compressor is set beforehand and such that the degree of suction superheat of the compressor is derived based on the motor driving torque identified by the identification means and the refrigerant state detected by the refrigerant detecting component.

13-21. (Cancelled)

22. (Currently Amended) A ~~The~~ refrigerator ~~according to claim 21, wherein~~ comprising:

a refrigerant circuit provided with a compressor including a motor and ~~the refrigerant circuit is~~ equipped with a refrigerant detecting component for detecting a refrigerant state;

a detecting component configured and arranged to detect at least one of a current of said motor and a voltage of said motor; and

a prediction component configured and arranged to predict an internal condition of the compressor based on detection values obtained by said detecting component;

said prediction component having an identification component for identifying a parameter of a motor model from the detection values obtained by the detecting component, and a derivation component for deriving the internal condition of the compressor based on the parameter identified by the identification component, the parameter identified by said identification component being motor driving torque,

the prediction component predicting poor lubrication or liquid compression in the compressor based on an increase in motor driving torque which exceeds a specified value, and the prediction component ~~is~~ being formed such that a stationary torque for the motor in its steady state is set based on the motor driving torque identified by the identification component and based on the refrigerant state detected by the refrigerant detecting component

and such that the poor lubrication or liquid compression of the compressor is predicted by making a comparison between said stationary torque and the motor driving torque identified by the identification component.

23-35. (Cancelled)

36. (Currently Amended) A ~~The~~ refrigerator ~~according to claim 35, wherein~~ comprising:

a refrigerant circuit provided with a compressor including a brushless DC motor;

a detecting component configured and arranged to detect at least one of a current of said motor and a voltage of said motor; and

a prediction component configured and arranged to predict an internal condition of the compressor based on detection values obtained by said detecting component,

said prediction component having an identification component for identifying a parameter of a motor model from the detection values obtained by the detecting component, and a derivation component for deriving the internal condition of the compressor based on the parameter identified by the identification component,

the identification means identifying a parameter based on a motor model constituted by the current and voltage of the motor, resistance and inductance, and the derivation component deriving motor temperature based on the parameter identified by the identification component,

the identification component ~~obtains~~ obtaining a motor voltage equation in such a way that a d-axis is plotted in the direction of the N pole of magnets of the motor, a q-axis is plotted in the direction which is shifted forward from the d-axis by $\pi/2$, and a motor basic voltage equation for a three-phase ~~PMSM~~ permanent magnet synchronous motor is converted into a d, q axis coordinate system which rotates at an electric angular speed ω, and the identification component then identifies a magnetic flux characteristic value associated with an armature flux linkage generated by the magnets, using said motor voltage equation, and

the derivation component ~~derives~~ deriving the temperature of the magnets as motor temperature based on the magnetic flux characteristic value identified by the identification component.

37. (Previously Presented) The refrigerator according to claim 36, wherein the identification component obtains a voltage equation for a steady state from the motor voltage equation, and at the time of the identification, the d-axis component of the armature current of said steady-state voltage equation is set to zero.

38. (Currently Amended) A ~~The~~ refrigerator ~~according to claim 35, wherein~~ comprising:

a refrigerant circuit provided with a compressor including a brushless DC motor;

a detecting component configured and arranged to detect at least one of a current of said motor and a voltage of said motor;

a prediction component configured and arranged to predict an internal condition of the compressor based on detection values obtained by said detecting component;

said prediction component having an identification component for identifying a parameter of a motor model from the detection values obtained by the detecting component, and a derivation component for deriving the internal condition of the compressor based on the parameter identified by the identification component,

the identification means identifying a parameter based on a motor model constituted by the current and voltage of the motor, resistance and inductance, and the derivation component deriving motor temperature based on the parameter identified by the identification component,

the refrigerant circuit ~~has~~ having a refrigerant detecting component for detecting the temperature of a discharge pipe of the compressor, and

a calibration component being configured such that the motor temperature derived by the derivation component being regarded as the internal temperature of the compressor 1, the internal temperature derived by the derivation component is calibrated based on the discharge pipe temperature detected by the temperature detecting component.